



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

HARMO 21 CONFERENCE PROGRAMME

Monday, 26 September 2022 (Department of Environment and Planning)

16:00-18:00

Registration (Department of Environment and Planning, University of Aveiro)

Tuesday, 27 September 2022 (Department of Environment and Planning)

08:00 - 19:00

Registration (Department of Environment and Planning, University of Aveiro)

09:00 - 09:10

Welcome by the organizers, Opening (Carlos Borrego Auditorium)

09:10 - 09:50

Plenary session 1 (Carlos Borrego Auditorium, Chair: A. Miranda)
Topic 9: Highlights of past work. Session devoted to reviews and to prominent scientists and 'golden papers' of the past, which have still relevance and should not be forgotten

09:10 - 09:50

Keynote Speaker H21-062: Steve Hanna: What were Pasquill and Gifford Thinking?

09:50 - 12:40

Plenary session 2 (Carlos Borrego Auditorium, Chair: N. Moussiopoulos)
Topic 1: Model evaluation and quality assurance – model validation, model intercomparisons, model uncertainties and model sensitivities

09:50 - 10:10

H21-126: Eliott Lumet, Mélanie C. Rochoux, Simon Lacroix, Thomas Javel, Olivier Vermorel: Sensitivity analysis of microscale pollutant dispersion large-eddy simulations towards observation network design

10:10 - 10:30

H21-039: Dietmar Öttl: Recent developments in high-resolution wind field modelling in complex terrain for dispersion simulations using GRAMM-SCI

10:30 - 11:00

Coffee/Tea Break, Poster Session

11:00 - 11:20

H21-076: Rafael Borge, David de la Paz, Jose María Cordero, Golam Sarwar, Sergey Napelenok: Comparison of Source Apportionment Methods to attribute summer tropospheric O3 and NO2 levels in Madrid (Spain)

11:20 - 11:40

H21-046: David Carruthers, Jenny Stocker, Amy Stidworthy, Christina Hood, Rose Jackson, Molly Oades, Stephen Smith, Daniel Connolly, Shyn Tong, Alison Davies, Sean Beevers, Nutthida Kitwiroon, Nosha Assareh, Paul Agnew, Vivien Bright, John Stedman, Beth Conlan, Massimo Vieno, Stefan Reis: DEFRA 2021 AIR QUALITY MODEL INTER-COMPARISON EXERCISE

11:40 - 12:00

H21-003: Roy Wichink Kruit, Addo van Pul, Koen Siteur: Measurement-model fusion techniques to quantify nitrogen deposition in the Netherlands

12:00 - 12:20

H21-150: Joana Ferreira, Sílvia Coelho, Diogo Lopes, Guido Pirovano: NO2 response to emission reduction scenarios - comparing brute force and tagging source apportionment methods

12:20 - 12:40

H21-113: Raido Kiss, Marko Kaasik, Terje Tammekivi, Seffen Noe: SO2 and NOx peak concentrations, vertical profiles and model-identified origins from distant sources

12:40 - 14:00

Lunch (Craсто Restaurant, University of Aveiro)

14:00 - 15:40

Plenary session 3 (Carlos Borrego Auditorium, Chair: D. Carruthers)
Topic 6: Use of modelling in health and exposure assessments

14:00 - 14:20

H21-163: Nicolas Moussiopoulos, Evangelia Fragkou, George Tsegas, Athanasios Karagkounis, Fotios Barmpas: METHODOLOGY FOR QUANTIFYING THE IMPACT OF SMART FARMING APPLICATION ON LOCAL-SCALE AIR QUALITY OF FARMS IN GREECE

14:20 - 14:40

H21-097: Sílvia Coelho, Joana Ferreira, David Carvalho, Ana Isabel Miranda, Myriam Lopes: AIR QUALITY IMPACTS ON HUMAN HEALTH, UNDER A CLIMATE CHANGE SCENARIO: THE AVEIRO REGION CASE STUDY

14:40 - 15:00

H21-033: Marie Dury, Florent Hozay, Fabian Lenartz: Personal Exposure Assessment through Measurement and Modelling

15:00 - 15:20

H21-010: Nina Kristiansen, Claire S. Witham: Quantifying hazardous areas to aircraft occupants from volcanic sulphur dioxide



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

15:20 – 15:40	H21-006: <u>Martin Otto Paul Ramacher</u> , Johannes Beiser: Underestimation of population exposure estimates in established methods
15:40 – 16:10	Poster Pitches Session 1 (Carlos Borrego Auditorium, Chair: C. Gama)
16:10 – 16:30	Coffee/Tea Break, Poster Session
16:30 - 18:30	Plenary session 4 (Carlos Borrego Auditorium, Chair: P. Thunis) Topic 6: Use of modelling in health and exposure assessments
16:30 – 16:50	H21-162: <u>Nicolas Moussiopoulos</u> , George Tsegas: ASSESSING THE IMPACT OF THE COVID-19 LOCKDOWNS: RESULTS AND IMPLICATIONS FROM A MODELLING APPLICATION IN TWO MEDITERRANEAN CITIES
16:50 – 17:10	H21-164: <u>George Efthimiou</u> , Fotios Barmpas, Nicolas Moussiopoulos: PREDICTION OF THE MAXIMUM WIND SPEED IN INDOOR ENVIRONMENTS FOR EFFICIENT NATURAL VENTILATION
17:10 – 17:30	H21-125: <u>Livia Grandoni</u> , Agnese Pini, Loic Méès, Pietro Salizzoni, Armando Pelliccioni, Giovanni Leuzzi, Paolo Monti: numerical dispersion modelling of the droplets expired by humans
17:30 – 17:50	H21-129: Tuan Vu, Gregor B. Stewart, Nutthida Kitwiroon, Hanbin Zhang, Benjamin Barratt, Sean D. Beevers, Presenter: <u>Andrew Beddows</u> : An integrated approach to estimate and predict dynamic infiltration factors of fine particles in London homes
18:00	Leaving University of Aveiro (by bus, Rectory Building, University of Aveiro)
19:00 – 21:00	Ice Breaker (Sétimo Bar, Barra Beach)/Return by bus
21:00	End of Day 1
Wednesday, 28 September 2022 (Department of Environment and Planning)	
09:00-16:00	Registration (Department of Environment and Planning, University of Aveiro)
09:00 - 11:00	Plenary session 5 (Carlos Borrego Auditorium, Chair: F. Martin) Topic SS2: Nature-based Solutions
09:00 – 09:40	Keynote Speaker H21-074: <u>Sandra Rafael</u> , Ana Ascenso, Bruno Augusto, Diogo Lopes, Ana Isabel Miranda: THE ROLE OF GREEN ROOFS ON CITIES AIR QUALITY: INDIRECT AND DIRECT IMPACTS
09:40 – 10:00	H21-029: <u>Alice Maison</u> , Cédric Flageul, Karine Sartelet, Bertrand Carissimo, Andrée Tuzet, Yunyi Wang: Modelling the impacts of urban trees on air quality in streets.
10:00 – 10:20	H21-123: <u>Vera Rodrigues</u> , Kevin Oliveira, Bruno Augusto, Sandra Rafael, Ana Ascenso, Ana Isabel Miranda: ASSESSING THE IMPACTS OF GREEN INFRASTRUCTURES ON URBAN AIR QUALITY
10:20 – 10:40	H21-098: <u>Carlo Cintolesi</u> , Silvana Di Sabatino, Andrea Petronio: IMPACTS OF AN EVAPORATING WATERBODY IN URBAN FABRIC THROUGH LARGE-EDDY SIMULATIONS
10:40 – 11:00	Coffee/Tea Break, Poster Session
11:00 - 12:40	Plenary session 6 (Carlos Borrego Auditorium, Chair: P. Armand) Topic SS2: Nature-based Solutions
11:00 – 11:20	H21-130: <u>Ana Ascenso</u> , Carla Gama, Peter Roebeling, Ana Isabel Miranda: Nature-based solutions for climate change adaptation: impacts on air quality and temperature in Eindhoven, The Netherlands.
11:20 – 11:40	H21-170: <u>Tess Ysebaert</u> : Aerodynamic parameterisation to model dry deposition of particulate matter on urban green infrastructure



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

11:40 – 12:00	H21-009: <u>Christof Gromke</u> : Passive pollutant concentration control by roadside hedgerows in urban streets
12:00 – 12:20	H21-026: <u>John G. Bartzis</u> , Ioannis A. Sakellaris, George Efthimiou, Spyros Andronopoulos, Ilias Tolia, Alexandros Venetsanos: Novel simplified methodologies on exposure uncertainty quantification from accidental airborne releases
12:20 – 12:40	H21-135: <u>Guillevic Lamaison</u> , Perrine Charvolin, Chi Vuong Nguyen, Kim Vermare, Aurélie Guth, Lionel Soulhac: A COUPLING BETWEEN RANS CFD AND STOCHASTIC LAGRANGIAN MODELLING FOR LONG TERM IMPACT ASSESSMENT ON AN INDUSTRIAL SITE

12:40 – 14:00	Lunch (Craсто Restaurant, University of Aveiro)
---------------	---

14:00 - 15:40	Plenary session 7 (Carlos Borrego Auditorium, Chair: B. Leitl) Topic 3: Use of modelling in support of EU air quality directives, including FAIRMODE activities
14:00 – 14:20	Keynote Speaker <u>Phillip Thunis</u> : FAIRMODE: update on on-going harmonisation activities
14:20 – 14:40	H21-018: <u>Bertrand Bessagnet</u> , Kees Cuvelier, Enrico Pisoni, Philippe Thunis, Alexander de Meij, Alexandra Monteiro, Angelos Violaris, Jonilda Kushta, Bruce R. Denby, Qing Mu, Eivind G. Wærsted, Marta García Vivanco, Mark R. Theobald, Victoria Gil, Ranjeet S Sokhi, Kester Momoh, Ummugulsum Alyuz, Rajasree VPM, Saurabh Kumar, Elissavet Bossioli, Georgia Methymaki, Darijo Brzoja, Velimir Milić, Arineh Cholakian, Romain Pennel, Sylvain Mailler, Laurent Menu, Gino Briganti, Mihaela Mircea, Claudia Flandorfer, Kathrin Baumann-Stanzer, Virginie Hutsemékers, Elke Trimpeneers: The FAIRMODE CT9 platform: assessing sensitivity of model responses to emission changes towards effective emission reduction strategies
14:40 – 15:00	H21-049: Jose-Luis Santiago, Esther Rivas, Beatriz Sanchez, Marta G. Vivanco, Mark R. Theobald, Juan Luis Garrido, Victoria Gil, Alberto Martilli, Alejandro Rodríguez-Sánchez, Riccardo Buccolieri, Ana R. Gamarra, Yolanda Lechón, Eugenio Sánchez, <u>Fernando Martín</u> : How do the reduction emission measures of the Spanish National Air Pollution Control Programme impact on street-level air quality in three neighbourhoods of Madrid (Spain)?
15:00 – 15:20	H21-112: <u>Stijn Janssen</u> , Giovanni Bonafè, Antonio Piersanti, Lina Vitali, Kristina Eneroth, Jutta Geiger, Sabine Wurzler, Roberta Amorati, Michele Stortini, Leonor Tarrason, Philippe Thunis: FAIRMODE CT8 exercise on assessment of Spatial Representativeness of monitoring stations
15:20 – 15:40	H21-043: <u>Edward Chan</u> , Joana Leitão, Seán A. Schmitz, Timothy M. Butler, Andreas Kerschbaumer: Hourly Roadside Traffic Emissions from Bottom-up Inventory for the City of Berlin

15:40 – 16:10	Poster Pitches Session 2 (Carlos Borrego Auditorium, Chair: B. Augusto)
---------------	---

15:40 - 18:30	Plenary session 8 (Carlos Borrego Auditorium, Chair: C. Mensink) Topic 3: Use of modelling in support of EU air quality directives, including FAIRMODE activities
16:30 – 16:50	H21-011: Alexander de Meij, <u>Kees Cuvelier</u> , Enrico Pisoni, P. Thunis, Bertrand Bessagnet: The sensitivity to four different emission inventories on air quality indices in Europe.
16:50 – 17:10	H21-025: <u>Tereza Šedivá</u> , Dušan Štefánik: COMPARISON OF SOURCE APPORTIONMENT METHODS USING THE CMAQ MODEL
17:10 – 17:30	H21-066: <u>Joost Wesseling</u> , Alicia Gressent, Anil Namdeo, Assa Camara, David Roet, Fabian Lenartz, Jorge Sousa, Pascal Joassin, Philipp Schneider, Philippe Thunis, Sjoerd van Ratingen, Stig Hellebust, Stijn Janssen, Stijn Vrankx, Vera Rodrigues, Wouter Hendricx: Benchmark on methodologies to integrate low-cost sensor networks with official measurements to improve (modelled) air quality maps
17:30 – 17:50	H21-073: <u>Antonio Piersanti</u> , Cornelis Cuvelier, Stijn Janssen, Alexandra Monteiro, Durka Paweł, Philippe Thunis, Lina Vitali: QUALITY CONTROL INDICATORS FOR THE VALIDATION OF AIR QUALITY FORECAST APPLICATIONS IN THE FRAMEWORK OF FAIRMODE ACTIVITIES
17:50 - 18:10	H21-091: <u>Zoltán Horváth</u> , László Környei, Mátyás Constans, Bence Liskai, Ákos Kovács, Tamás Budai, and Csaba Tóth: Unsteady urban microscale simulations of air pollution for a full year and its platform for harmonisation



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

18:10 – 18:30	H21-038: <u>Fernando Martin</u> , Kees Cuvelier; Philippe Thunis, José Luis Santiago, Esther Rivas, Jenny Stocker, Rose Jackson, Felicita Russo, Maria Gabriella Villani, Gianni Luigi Tinarelli, Daniela Barbero, Roberto San Jose, Juan Luis Pérez-Camanyo, Gabriela Sousa Santos, John G. Bartzis, Ioannis A. Sakellaris, Nicola Masey, Scott Hamilton, Zoltán Horváth, László Környei, Bence Liskai, Ákos Kovács: The FAIRMODE CT4: Intercomparison Exercise of Urban Microscale Models and Methodologies for deriving annual pollutant concentrations distribution with very high spatial resolution
---------------	---

18:30	End of Day 2
-------	--------------

Thursday, 29 September 2022 (Rectory Building, University of Aveiro)
--

09:00-16:00	Registration (Rectory Building, University of Aveiro)
-------------	---

09:00 – 10:20	Parallel session 1 (Renato Araújo Auditorium, Rectory Building, Chair: M. Ketznel) Topic 4: Parametrization of Physical Processes and Mathematical Problems in Meteorology and Air Quality Modelling	Parallel session 2 (Acts Room, Rectory Building, Chair: E. Batchvarova) Topic 1: Model evaluation and quality assurance – model validation, model intercomparisons, model uncertainties and model sensitivities
09:00 – 09:20	H21-032: <u>Stijn Van Leuven</u> , Pieter De Meutter, Johan Camps, Piet Termonia, Andy Delcloo: Sensitivities in wet deposition modelling applied to the Fukushima nuclear accident	<u>Simon Gant</u> , <u>Joe Chang</u> , Sun McMasters, Ron Meris, Scott Bradley, Sean Miner, Matthew King, Steven Hanna, Thomas Mazzola, Tom Spicer, Rory Hetherington, et al.: SUMMARY OF RESULTS FROM THE JACK RABBIT III INTERNATIONAL MODEL INTER-COMPARISON EXERCISE ON DESERT TORTOISE AND FLADIS
09:20 – 09:40	H21-054: <u>Bruno Ribstein</u> , Maxime NIBART, Gianni Tinarelli: PROPOSAL FOR MODELLING THE DRY DEPOSITION OF SOLID PARTICLE AND GAS USING A 3D STOCHASTIC LAGRANGIAN DISPERSION MODEL	H21-002: <u>Zita Ferenczi</u> , Emese Homolya, Krisztina Lázár, and Anita Tóth: Effect of the uncertainty in meteorology on air quality model predictions
09:40 – 10:00	H21-070: <u>David Ben-Shlomo</u> , Eyal Fattal, Ronen Berkovich: Application of Stochastic Wall Bounded Turbulent Flow Model to Resuspension	H21-064: <u>Adrienn Varga-Balogh</u> , <u>Ádám Leelőssy</u> , <u>Róbert Mészáros</u> : PM2.5 predictions for urban monitoring sites in Budapest using statistical fusion of CAMS air quality models
10:00 – 10:20	H21-117: <u>Ignacio Pisso</u> , Massimo Cassiani, Anna Solvejg Dinger, Hamidreza Ardeshtiri, Soon-Young Park, Kerstin Stebel, Arve Kylling, Norbert Schmidbauer, Andreas Stohl: Tomographic 3D reconstructions of artificial releases of SO2 in the atmospheric boundary layer	H21-040: Daniel Silk, Joel Howard, Simon Gant, Rory Hetherington, Adrian Kelsey, Presenter: <u>Stephanie Schaap</u> : Calibrating multi-model ensemble predictions from the Jack Rabbit III international model inter-comparison exercise
10:20 – 10:40	H21-056: <u>Andrew Mirza</u> , Helen F. Dacre: Modelling free tropospheric turbulence in an atmospheric dispersion model.	H21-174: <u>Roberto San Jose</u> , Juan L. Pérez: Source apportionment analysis in PM and O3 concentrations during COVID-19 lockdown period in Madrid (Spain)

10:40 – 11:00	Coffee/Tea Break, Poster Session , Group Photo
---------------	--

11:00 – 12:40	Parallel session 3 (Renato Araújo Auditorium, Rectory Building, Chair: J. Bartzis) Topic 7: Inverse dispersion modelling and source identification	Parallel session 4 (Acts Room, Rectory Building, Chair: C. Borrego) Topic 1: Model evaluation and quality assurance – model validation, model intercomparisons, model uncertainties and model sensitivities
---------------	--	---

11:00 – 11:20	H21-131: <u>Stefano Alessandrini</u> , Scott Meech: TESTING A MACHINE LEARNING MODEL FOR THE SOURCE TERM ESTIMATION	H21-094: Tristan Carion, Michal Shimoni, Loic Francotte, Arthur Vandenhoeke, Andy Delcloo, Bart Janssen, Piet Termonia: Evaluation of a military CBRN-hazard prediction procedure with a Lagrangian dispersion model
11:20 – 11:40	H21-059: <u>Joffrey Dumont Le Brazidec</u> , Pierre Vanderbecken, Alban Farchi, Yelva Roustan, Marc Bocquet, Jinghui Lian, Grégoire Broquet, Thomas Lauvaux, Alexandre Danjou: CO2 plume detection and inversion using convolutional neural networks: application to synthetic images of XCO2 fields over urban areas	H21-161: <u>Goran Gašparac</u> , Amela Jeričević, Theresa Klausner, Heidi Huntrieser, Heinfried Aufmhoff, Anke Roiger: Regional modeling and assessment of SO2 concentrations in a complex environment using aviation measurements
11:40 – 12:00	H21-110: Andrew Beddows, Nutthida Kirwiroon, Noshah Assareh, Gregor Stewart, Sean Beever: Emissions calibration in a country scale high resolution air quality model	H21-021: Renske Timmermans, M. Schaap, R. Kranenburg, Pinxteren, Augustin Colette, Stephen Matthew Platt: Evaluation of modelled source attributions with observational based source attribution
12:00 – 12:20	H21-069: <u>Martin Ferrand</u> , Konstantin Kuznetsov, Bertrand Carissimo, Marc Bocquet: MCMC Metropolis-Hasting algorithm in the source inversion problems of air pollutants in urban CFD modelling.	H21-014: Maeva Caillat, Valentin Pibernus, Sylvain Girard, <u>Patrick Armand</u> , Christophe Duchenne: Innovative probabilistic modelling of risk zones in the event of accidental atmospheric releases
12:20 – 12:40	H21-027: <u>Emilie Launay</u> , Virginie Hergault, Marc Bocquet, Joffrey Dumont Le Brazidec, Yelva Roustan: Source characterisation of large-scale urban fires by inverse modelling	H21-087: Alison McGillivray, Mike Harper, Frank Hart, Stephen Puttick, Adeel Ibrahim, <u>Simon Gant</u> , Rory Hetherington: Phast modelling of the Desert Tortoise and FLADIS ammonia trials for the Jack Rabbit III model inter-comparison exercise
12:40 – 14:00	Lunch (Craсто Restaurant, University of Aveiro)	
14:00 - 18:30	Parallel session 5 (Renato Araújo Auditorium, Rectory Building, Chair: B. Carissimo) Topic 8: Modelling air dispersion and exposure to accidental releases	Parallel session 6 (Acts Room, Rectory Building, Chair: P. Suppan) Topic 1: Model evaluation and quality assurance – model validation, model intercomparisons, model uncertainties and model sensitivities
14:00 – 14:20	H21-004: <u>Thomas Spicer</u> , Chad T. Smith: WIND TUNNEL AND MATHEMATICAL MODELLING OF THE NEAR-SOURCE REGION OF JACK RABBIT II MOCK URBAN ENVIRONMENT CHLORINE RELEASES	H21-168: Alexey Gusev, Emese Homolya, Krisztina Lázár, Anita Tóth, Presenter: <u>Mihaela Mircea</u> : EURODELTA-Carb exercise: Intercomparison of modelled estimates of benzo(a)pyrene (BaP) in Europe
14:20 – 14:40	H21-061: <u>Steve Hanna</u> , Ronald Meris, Sun McMasters, Joseph Chang, Thomas Mazzola, Thomas Spicer, Simon Gant: Planning for Jack Rabbit III Field Experiment Focusing in Anhydrous Ammonia	H21-128: <u>Patrick Armand</u> , Christophe Duchenne: New insight on 3D modelling of the dispersion of gases released from an industrial facility in a complex environment
14:40 – 15:00	H21-067: <u>Youness El-Quartassy</u> , Matthieu Plu, Irène Korsakissok, Laurent Descamps, Laure Raynaud, Olivier Connan: Towards the use of meteorological ensembles for short distance dispersion of radionuclides in case of an accidental release in the atmosphere	H21-153: <u>Saravanan Arunachalam</u> , Brian Fredrik Naess, Akula Venkatram: Development of a new Airport Dispersion Model

15:00 – 15:20	H21-085: <u>Christian Lejon</u> , Daniel Elfversson, Daniel Vågberg, Leif Persson, Joakim Eriksson Rydman, Oscar Björnham, Birgitta Liljedahl, Jan Sjöström: LAGRANGIAN PLUME-RISE DISPERSION MODELLING OF LARGE-SCALE LITHIUM-ION BATTERY FIRES IN OPEN SURROUNDING WITH APPLICATION TO THE FIRE IN MORRIS, USA, 2021	H21-068: <u>Daniel Loeb</u> , Maxime Nibart, Bruno Ribstein, Anne-Sophie Saffre, Frédéric Mahe, Claude Derognat: Towards the use of meteorological ensembles for short distance dispersion of radionuclides in case of an accidental release in the atmosphere
15:20 – 15:40	H21-093: <u>Irène Korsakissok</u> , Olivier Saunier, Valentin Jacques: Updated atmospheric dispersion simulations and source term reconstruction of the Fukushima accident at local scale	H21-107: Malo Le Guellec, Liying Chen, <u>Amita Tripathi</u> , Sophie Vecchiola, Anne Mathieu, Philippe Laguionie, Olivier Connan, Denis Maro, Luc Solier, Irène Korsakissok, Perrine Charvolin-Volta, Guillevic Lamaison, Lionel Soulhac: DISPERSION OF RADIONUCLIDES IN A URBAN ENVIRONMENT (DIFLU): COMPARISON OF NUMERICAL RESULTS WITH EXPERIMENTAL MEASUREMENTS
15:40 – 16:00	Coffee/Tea Break, Poster Session	
16:00 – 16:30	Keynote Speaker <u>Phillip Thunis</u> : Air Quality: update on the revision of the EU rules	
16:30 – 17:10	Poster Pitches Session 3 (Renato Araújo Auditorium, Rectory Building, Chair: J. Ferreira)	
17:10 – 18:30	Parallel session 7 (Renato Araújo Auditorium, Rectory Building, Chair: S. Di Sabatino) Topic 8: Modelling air dispersion and exposure to accidental releases	Parallel session 8 (Acts Room, Rectory Building, Chair: Z. Ferenczi) Topic SS1: Modelling Odour Dispersion and Exposure
17:10 – 17:30	H21-122: <u>Astrid Kloosterman</u> , Chris Twenhöfel, Teun van Dillen, Jasper Tomas: A probabilistic approach for determining potentially affected areas for accidental releases	H21-060: <u>Alessandra Panzitta</u> , Alessandra Panzitta, Beatrice Julia Lotesoriere, Marzio Invernizzi, Roberto Sozzi, Laura Capelli: Development of a simulation tool to evaluate the applicability of the Gradient Method for the estimation of odour emission fluxes
17:30 – 17:50	H21-134: <u>Lionel Soulhac</u> , Guillevic Lamaison, Perrine Charvolin, Chi Vuong Nguyen, Mehdi Slimani, Patrick Armand: New developments and validations of the BUILD operational dispersion model for accidental or deliberate releases in complex area	H21-088: <u>Silvia Trini Castelli</u> , Francesco Ubaldi, ARIANET Srl, Milano, Italy Gianni Tinarelli, Piero Malguzzi, Oxana Drofa, Paolo Bonasoni: A NOVEL APPROACH FOR TRACING THE ORIGIN OF ODOUR NUISANCE WITH SMART METEO-DISPERSIVE MODELLING SYSTEM
17:50 – 18:10	H21-141: <u>Olivier Oldrini</u> , Sylvie Perdriel, Patrick Armand, Christophe Duchenne: STUDY OF THE UNCERTAINTIES FOR CONCENTRATION IN THE REALISTIC BUILT-UP AREA OF PARIS, THE SURE PROJECT	H21-154: Jennifer Barclay, <u>Carlos N. Diaz</u> , Imelda Shanahan, Christelle Escoffie, Anne-Claude Romain, Andrew Balch, Rodrigo Rosales, Gianni Tinarelli, Giuseppe Brusasca, Giusy Oliva, Tiziano Zarra, Günther Schauburger, Silvia Trini Castelli: THE INTERNATIONAL HANDBOOK ON THE ASSESSMENT OF ODOUR EXPOSURE BY USING DISPERSION MODELLING
18:10 – 18:30	H21-079: <u>Chun-Sil Jin</u> , Hyun-Ha Lee, Jeong-Wan Kwon, Dong-Il Kim: Multi-Model Ensemble Dispersion Prediction System for Nuclear Emergency Response	H21-167: Damyan Barantiev, <u>Ekaterina Batchvarova</u> , Rosen Penchev: Examples of 30-minutes notice for fog formation or dissipation at the port of Burgas
20:00	Conference Dinner (Meliá Ria Hotel & Spa)	

18:30	End of Day 3
-------	--------------

Friday, 30 September 2022 (Rectory Building, University of Aveiro)
--

09:00-12:00	Registration (Rectory Building, University of Aveiro)
-------------	---

09:00 – 10:20	Plenary session 9 (Renato Araújo Auditorium, Rectory Building, Chair: V. Rodrigues) Topic 5: Urban Scale and Street Canyon Modelling: Meteorology, Air Quality and Passive Control Systems	
09:00 – 09:40	Keynote Speaker H21-159: <u>Paul Bieringer</u> , Scott Runyon, David Lorenzetti, Michael Sohn: Relating Outdoor Contaminant Concentration Variance to Indoor Variance to Improve Health and Exposure Impacts	
09:40 – 10:00	H21-047: Esther Rivas, José Luís Santiago, Alberto Martilli, <u>Fernando Martin</u> , Elías Díaz, Francisco Javier Gómez, Begoña Artiñano, Carlos Román-Cascón, Carlos Yagüe, David de la Paz, Rafael Borge: Infiltration of NOx from road traffic into buildings by natural ventilation: a case study	
10:00 – 10:20	H21-166: <u>Silvana Di Sabatino</u> , Carlo Cintolesi: LARGE-EDDY SIMULATIONS OF NATURE-BASED SOLUTIONS EFFECTIVENESS IN POLLUTANT REMOVAL FROM URBAN CANYONS	
10:20 – 10:40	H21-152: <u>Matthias Ketzel</u> , Ahmet Mustafa Tepe: Modelling of the horizontal air pollution gradients inside a street canyon using new features in the OSPM model	

10:40 – 11:00	Coffee/Tea Break, Poster Session
---------------	----------------------------------

11:00 – 12:40	Parallel session 10 (Renato Araújo Auditorium, Rectory Building, Chair: A. Jeričević) Topic 5: Urban Scale and Street Canyon Modelling: Meteorology, Air Quality and Passive Control Systems	Parallel session 11 (Acts Room, Rectory Building, Chair: M. Kaasik) Topic 7: Inverse dispersion modelling and source identification
11:00 – 11:20	H21-140: <u>Jan Mateu Armengol</u> , A.Criado, H. Petetin, M. Olid, J. Benavides, D.Rodríguez-Rey, M. Guevara, C. Pérez García-Pando, A. Soret, O. Jorba: Post-processing tools for correcting urban air quality forecast maps	H21-022: <u>Jorge Sousa</u> , H. Hooyberghs, W. Lefebvre, S. Vranckx, S. Janssen: Bayesian inference of emission sources based on a dispersion model and sensor networks
11:20 – 11:40	H21-080: <u>Michael Sohn</u> , Marion L. Russell: TRACER GAS EXPERIMENT OF URBAN POLLUTANT TRANSPORT: URBAN CANYONS AND INDOOR-OUTDOOR TRANSPORT	H21-127: <u>Amy Stidworthy</u> , David Carruthers, Molly Oades, Rod Jones, Olalekan Popoola, Jim Mills, Felicity Sharp: QUANTIFYING THE IMPACT OF COVID-19 RESTRICTIONS ON EMISSIONS USING INVERSE MODELLING AND MEASUREMENTS
11:40 – 12:00	H21-102: <u>Yunyi Wang</u> , Cédric Flageul, Chao Lin, Ryoza Ooka, Hideki Kikumoto, Youngseob Kim, Karine Sartelet: Simulations of street-canyon air-quality using fluid dynamics and aerosol modelling	H21-165: <u>Panagiotis Gkirmpas</u> , Fotios Barmpas, Nicolas Moussiopoulos, presenter : COMPARISON OF THE ACCURACY OF K-EPSILON AND K-OMEGA SST TURBULENCE MODELS IN AN UNKNOWN SOURCE PARAMETERS ESTIMATION APPLICATION
12:00 – 12:20	H21-096: <u>Christopher Andersen</u> , Matthias Mensink Ketzel, Ole Hertel, Jesper H. Christensen, and Jørgen Brandt: Development of a New Lagrangian Air Pollution Model for Denmark	H21-075: <u>Olivier Saunier</u> , Olivier Masson: Cs-137 source reconstruction of unprecedented wildfires in the Chernobyl exclusion zone in April 2020
12:20 – 12:40	H21-145: <u>Tomas Halenka</u> , Gaby Langendijk: URBAN ENVIRONMENTS AND REGIONAL CLIMATE CHANGE - CORDEX FLAGSHIP PILOT STUDY URB-RCC	H21-008: <u>Helen Webster</u> , David Thomson: USING ENSEMBLE NWP DATASETS TO OVERCOME



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

		METEOROLOGICAL ERRORS IN A BAYESIAN INVERSE MODELLING SYSTEM
12:40 – 14:00	Lunch (Craсто Restaurant, University of Aveiro)	
14:00 - 18:30	Plenary session 12 (Renato Araújo Auditorium, Rectory Building, Chair: S. Trini Castelli) Topic 2: Environmental impact assessment: Air pollution management and decision support systems	
14:00 – 14:20	H21-124: <u>Daniela Barbero</u> , Bruno Ribstein, Maxime Nibart, Gianni Luigi Tinarelli: Acceleration of simulations by application of a kernel method in a high-resolution Lagrangian Particle Dispersion Model	
14:20 – 14:40	H21-157: <u>Ulrich Uhrner</u> , Nicola Toenges-Schuller, Raphael Reifeltshammer, Werner Stadlhofer, Silvia Jost, Stefan Hausberger: Specification of Zero-Impact vehicle exhaust emissions from the ambient air quality perspective and demonstration of Zero Impact	
14:40 – 15:00	H21-144: <u>Daeun Jung</u> , David de la Paz, Alberto Notario, Rafael Borge: COMPARISON OF CHANGES IN THE OXIDATION CAPACITY BETWEEN URBAN AND RURAL AREAS IN EUROPE	
15:00 – 15:20	H21-041: <u>Michael Russo</u> , David Carvalho, Alexandra Monteiro, Jalkanen Jukka-Pekka: EU maritime transport and air quality: impacts in current and future climate change scenarios	
15:20 – 15:40	H21-103: Marta G. Vivanco, Mark R. Theobald, Victoria Gil, Juan Luis Garrido, Ana R. Gamarra, Yolanda Lechón, José Luis Santiago, Fernando Martín, <u>Alejandro Rodríguez-Sánchez</u> , Carmen Lago, Eugenio Sánchez: THE EFFECT ON AIR QUALITY OF INCREASED RENEWABLE ENERGY USE IN THE SPANISH ROAD TRANSPORT SECTOR	
15:40 – 16:00	H21-089: Stijn Vranckx, Nele Smeets, Hans Hooyberghs, Wouter Lefebvre, Peter Viaene, Robin Houdmeyers, <u>Stijn Janssen</u> , Jorge Sousa, Alessandro D'Ausilio, Lisa Blyth, Jana Krajčovičová, Dušan Štefánik, Beňo Juraj, Zita Ferenczi, Ewa Bielas, Włodzimierz Zaleski: ATMO-Plan: an air quality management system for environmental impact assessments and urban air quality plans in Europe	
16:40	Closing and Goodbye Coffee Break	
16:40	End of Day 4	

POSTER PITCHES SESSIONS

27 sept 15:40 – 16:10	Poster Pitches Session 1 (Carlos Borrego Auditorium)
H21-023: <u>Jens Peter Frankemölle</u> , Johan Camps, Pieter De Meutter, Johan Meyers: Near-range Gaussian plume modelling for gamma dose rate reconstruction	
H21-092: <u>Rory Hetherington</u> , Graham Tickle, Veronica Bowman, Daniel Silk, Simon Gant, Adrian Kelsey, Alison McGillivray, Harvey Tucker: DRIFT MODELLING OF THE DESERT TORTOISE AND FLADIS AMMONIA TRIALS FOR THE JACK RABBIT III MODEL INTER-COMPARISON EXERCISE	
H21-151: Ana R. Gamarra, Marta G. Vivanco, Mark R. Theobald, Yolanda Lechón, Carmen Lago, Victoria Gil, Juan Luis Garrido, José Luis Santiago, Fernando Martín, <u>Alejandro Rodríguez-Sánchez</u> , Eugenio Sánchez. Presented by <u>Alejandro Rodriguez-Sanchez</u> : Assessing the impact of a traffic low emission zone on pollutant concentrations at street level through a combination of microscopic traffic simulations and air quality modelling at multiscale	
H21-044: <u>Hanane Bounouas</u> , Johann Chardeur, Olivier Connan, Didier Hebert, Philippe Laguionie, Denis Maro, Hugo Renard, Pierre Rounsard, Marianne Rozet, Eric Dupont, Thaddé Régi, Bertrand Carissimo, Aurélien Faucheux, Yannick Lefranc, Yelva Roustan: STUDY OF ATMOSPHERIC DISPERSION UNDER LOW WIND CONDITIONS IN AN URBAN ENVIRONMENT, FIRST RESULTS	
H21-139: <u>Guilhem Balvet</u> , Martin Ferrand, Yelva Roustan, Jean-Pierre Minier, Christophe Henry, Inria Sophia Antipolis: Treatment of the near ground effect in Lagrangian stochastic methods applied to a 2-D point source dispersion after an isolated obstacle in a neutral flow	



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

H21-063: <u>Boulos Alam</u> , Rayan Nkenfack Soppi, Amir Ali Feiz, Pierre Ngae, Pramod Kumar, Amer Chpoun: Numerical modelling of pollutant dispersion over an idealized urban area using different algebraic closure models
H21-045: <u>Joffrey Dumont Le Brazidec</u> , Marc Bocquet, Olivier Saunier, Yelva Roustan: Bayesian transdimensional inverse reconstruction of the 137Cs Fukushima-Daiichi release
H21-030: <u>Paweł Porwisiak</u> , Maciej Kryza, Massimo Vieno, Janice Scheffler, Mike Holland, Lech Gawuc, Bruce Denby, Qing Mu, Małgorzata Werner: Benzo(a)pyrene concentrations in Central Europe – the role of meteorological conditions and health impact analysis
H21-005: Mohamed Yassin: EFFECT OF UPSTREAM BUILDING ON THE POLLUTANT DISPERSION IN URBAN CANOPY WITH CHANGES THERMAL STABILITY.
H21-077: Iwona Rackiewicz, <u>Agnieszka Bartocha</u> , Tomasz Przybyła, Marek Rosicki, Piotr Michałek: A DYNAMIC ODOUR MAPPING SYSTEM AS A TOOL TO SUPPORT LOCAL AUTHORITIES AND WASTEWATER TREATMENT PLANTS IN ODOUR IMPACT MANAGEMENT: A DYNAMIC ODOUR MAPPING SYSTEM AS A TOOL TO SUPPORT LOCAL AUTHORITIES AND WASTEWATER TREATMENT PLANTS IN ODOUR IMPACT MANAGEMENT
H21-055: <u>Bruno Ribstein</u> , Maxime Nibart, Patrick Armand, Christophe Duchenne: A NEW APPROACH TO COUPLING FLOW AND DISPERSION CFD SIMULATIONS IN A LARGE URBAN AREA AND BUILDINGS OF INTEREST
H21-081: <u>Bianca Tenti</u> , Enrico Ferrero: SMOKE PLUME FROM FIRE LAGRANGIAN SIMULATION: DEPENDENCE ON DRAG COEFFICIENT AND RESOLUTION
H21-106: <u>Marie Mulder</u> : Combining sentinel observations with plume backtrackings from a dispersion model to improve wildfire detection
H21-082: <u>Eve Draper</u> , J. Duncan Whyatt, Sarah E. Metcalfe: Estimating regional background concentrations of PM2.5 and verifying local source contributions in a data poor environment
H21-012: <u>Sofia Farina</u> , Dino Zardi: NUMERICAL MODELING OF PASSIVE TRACER DISPERSION FROM A CONTINUOUS POINT SOURCE IN A STEADY THERMALLY DRIVEN SLOPE WIND
H21-015: <u>Lech Gawuc</u> , Karol Szymankiewicz, Dorota Kawicka, Ewelina Mielczarek, Kamila Marek, Marek Soliwoda, Jadwiga Maciejewska: BOTTOM-UP INVENTORY OF RESIDENTIAL COMBUSTION EMISSIONS IN POLAND FOR NATIONAL AIR QUALITY MODELLING: CURRENT STATUS AND PERSPECTIVES
H21-156: <u>Cyrrill von Arx</u> : Implementation of a decision support system for nuclear emergencies
H21-053: <u>Bruno Ribstein</u> , Maxime Nibart, Daniel Loeb, Patrick Armand, Christophe Duchenne: PROPOSAL FOR MODELLING THE INFLUENCE OF ROOF SLOPE ON URBAN FLOW WITH A DIAGNOSTIC MODEL

28 Sept 15:40 – 16:10	Poster Pitches Session 2 (Carlos Borrego Auditorium)
-----------------------	--

H21-020: <u>Arièle Defossez</u> , Rayna Charlatchka: State of the art on deposition by fog and its difference with respect to dry and wet deposition (wash-out) for a better representation in impact studies
H21-024: <u>Victor Watson</u> , François Septier, Patrick Armand, Christophe Duchenne: Detection of low level concentrations of hazardous materials in the air using sequential multivariate detection methods
H21-028: <u>Margret Velizarova</u> , Reneta Dimitrova, Angel Burov, Danail Brezov: Dispersion modelling of major traffic sources in Sofia city
H21-031: <u>Pirmin Kaufmann</u> , Stefan Rüdüsühli: Operational Dispersion Ensemble at MeteoSwiss
H21-037: <u>Dušan Štefánik</u> , Jana Krajčovičová, Tereza Šedivá: ASSESSMENT OF THE IMPACT OF THE RESIDENTIAL HEATING EMISSIONS ON CONCENTRATIONS BY LOCAL AND REGIONAL AIR-QUALITY MODELS
H21-042: <u>Loris Colombo</u> , Alessandro Marongiu, Giuseppe Fossati, Giulia Malvestiti, Elisabetta Angelino: PM2.5 WINTERTIME SENSITIVITY TO CHANGES IN NOX, SO2 AND NH3 EMISSIONS IN LOMBARDY REGION
H21-048: <u>Oscar Björnham</u> , Daniel Elfverson, Leif Persson: Population dynamics and its consequences on health risk modeling following inhalation exposure
H21-050: Jose-Luis Santiago, Esther Rivas, Beatriz Sanchez, Riccardo Buccolieri, Oliver S. Carlo, Alberto Martilli, Marta G. Vivanco, <u>Fernando Martín</u> : IMPACT OF GREEN INFRASTRUCTURE ON TRAFFIC RELATED POLLUTANT CONCENTRATION IN HIGH-RISE URBAN AREAS
H21-052: <u>Francesca Tagliaferri</u> , Marzio Invernizzi, Selena Sironi: VALIDATION STUDY OF WINDTRAX BACKWARD LAGRANGIAN MODEL



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes
27-30 September 2022, Aveiro, Portugal**

H21-017: <u>Ivelina Georgieva</u> , Georgi Gadzhev, Kostadin Ganev, Vladimir Ivanov: EVALUATION OF THE EFFECTS OF THE NATIONAL EMISSION REDUCTION STRATEGIES FOR YEARS 2020-2029 AND AFTER 2030 ON THE SULPHUR AND NITROGEN SURFACE CONCENTRATIONS ON THE TERRITORY OF BULGARIA
H21-071: <u>Boris Mifka</u> , Maja Telišman Prtenjak, Ivna Kavre Piltaver, Darko Mekterović, Josipa Kuzmić, Marijan Marcijuš, Irena Ciglencečki: The aspects of numerical simulations on desert dust outbreaks over the Adriatic Sea; influence of Asian and African deserts
H21-072: <u>Alex Resovsky</u> , Eriksson, E. M., Velay-Lasry, F., Resovsky, A., Lachatre, M., Albergel, A., Calori, G., Nanni, A., Radice, P., Abiye, O., Fawole, O., Adebola, O., Mate, K., Kuntasal, O. O., Awe, Y. A., Fagbeja, M. A., Akpokodje, J. E., Johnson, T., Weaver, C., Forastiere, F., Spadaro, J. V.: DEVELOPMENT OF AN AIR POLLUTANT EMISSIONS INVENTORY AND MODELING FRAMEWORK FOR AIR QUALITY CONTROL MEASURES IN LAGOS, NIGERIA
H21-078: <u>Andrea Bisignano</u> , M. Beggiato, M. C. Bove, R. Cresta, F. Cassola, D. Sacchetti, A. Mazzino, P. Prati: ASSESSING THE IMPACT OF PORT EMISSIONS ON AIR POLLUTION IN GENOA
H21-016: <u>Georgi Gadzhev</u> , Kostadin Ganev, Ivelina Georgieva, Vladimir Ivanov: Evaluation of the Impact of the Projected Future Emissions from Energy on the Air Quality in Bulgaria
H21-083: <u>Chun-Ji Kim</u> , Su-Bin Oh, Sang-Hyun Lee, Hyun-Ha Lee, Chun-Sil Jin: Atmospheric dispersion characteristics of radioactive materials obtained from WRF/HYSPLIT in nuclear power plants
H21-086: <u>Margit Pattantyús-Ábrahám</u> : NEW REGULATION FOR DOSE ASSESSMENT OF RADIOACTIVE RELEASES IN GERMANY
H21-090: <u>Małgorzata Werner</u> , Anetta Drzeniecka-Osiadacz, Lech Gawuc, Maciej Kryza, Tymoteusz Sawiński, Krzysztof Skotak, Massimo Vieno. Presented by <u>Paweł Porwisiak</u> : Impact of policy abatements on air quality in Central Europe
H21-051: Jose-Luis Santiago, Esther Rivas, Beatriz Sanchez, Riccardo Buccolieri, Alberto Martilli, Marta G. Vivanco, Antonio Esposito, <u>Fernando Martín</u> : Ranking of various single and combinations of local air pollution mitigation measures in an urban environment
H21-084: Sang-Hyun Lee, Su-Bin Oh, Sang-Hyun Lee, Hyun-Ha Lee, Chun-Sil Jin: DEVELOPMENT OF A DYNAMIC DOWNSCALING METHOD FOR USE IN SHORT-RANGE ATMOSPHERIC DISPERSION MODELLING NEAR NUCLEAR POWER PLANTS

29 Sept 16:30 – 17:10	Poster Pitches Session 3 (Renato Araújo Auditorium, Rectory Building)
-----------------------	---

H21-099: <u>Niki Paisi</u> , Jonilda Kushta, Angelos Violaris, Hugo Denier Van Der Gon, Jos Lelieveld: Role of Emission Inventories and Differential Toxicity Approach in Modelling of PM2.5 and Associated Health Impacts
H21-101: <u>Grzegorz Jeleniewicz</u> , Joanna Strużewska, Jacek Kamiński, Paulina Jagiełło, Aneta Gienibor, Marcin Kawka, Aleksander Norowski: MODELLING BASED METHOD FOR ASSESSING THE REPRESENTATIVENESS OF AIR QUALITY MONITORING STATIONS
H21-104: Ana R. Gamarra, Marta G. Vivanco, Mark R. Theobald, Yolanda Lechón, Carmen Lago, Victoria Gil, Juan Luis Garrido, José Luis Santiago, Fernando Martín, Alejandro Rodríguez-Sánchez, Eugenio Sánchez. Presented by <u>Alejandro Rodriguez-Sanchez</u> : HEALTH IMPACT BENEFITS OF INCREASED RENEWABLE ENERGY USE IN THE SPANISH ROAD TRANSPORT SECTOR
H21-105: <u>Vladimír Fuka</u> , Štěpán Nosek, Jelena Radović: Sensitivity of LES simulations to resolution, subgrid models and boundary conditions
H21-108: <u>Bernd Leitl</u> , S. Michel, S Schalau, H. Plischka, J. Turnow, B. Schalau, F. Harms: Softwaretools for simulating dispersion of hazardous materials in industrial environments
H21-114: <u>Roberta De Maria</u> , Stefano Bande, Francesca Bissardella, Cinzia Cascone, Stefania Ghigo, Marilena Maringo: Impact assessment on air quality of a waste-to-energy plant in Turin
H21-119: <u>Benoît Cuilhe</u> , Martin Ferrand, Yelva Roustan, Bertrand Carissimo: Recent developments in high-resolution wind field modelling in complex terrain for dispersion simulations using GRAMM-SCI
H21-121: <u>Andres Simon-Moral</u> , Alberto Martilli, Ales Padró, Lexuri Yurrebaso: Assessment of the dispersive capacity of neighbourhoods based on Local Climate Zones classification
H21-133: <u>Roseane Albani</u> : A BAYESIAN INFERENCE TECHNIQUE COMBINED WITH A STOCHASTIC WIND MODELING TO IMPROVE MULTIPLE SOURCE PARAMETERS ESTIMATION IN THE ATMOSPHERE
H21-136: <u>Alexandre Armengaud</u> , Sonia Oppo, Eve-Agnès Fiorentino, Frédéric Mahé, Barbara D'Anna: INTERCOMPARISON BETWEEN OBSERVATIONS AND 3D LAGRANGIAN MODEL SIMULATIONS FOR POLLUTANTS DISPERSION IN THE HARBORS OF MARSEILLE AND TOULON IN 2021



**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

H21-138: <u>Armando Pelliccioni</u> , Livia Grandoni, Annalisa Di Bernardino, Paolo Monti: Tilt correction method for the estimation of scaling variables of Monin-Obukhov Similarity Theory in urban areas
H21-142: <u>Elisabetta Ronchieri</u> , Leonardo Aragão, Rossana Di Staso: TIME SERIES ANALYSIS OF METEOROLOGICAL PARAMETERS AND AIR POLLUTION CONCENTRATIONS IN EMILIA-ROMAGNA, ITALY, DURING COVID-19 INFECTION
H21-146: <u>Tomas Halenka</u> , Ranjeet S. Sokhi: NON-CO2 FORCERS AND THEIR CLIMATE, WEATHER, AIR QUALITY AND HEALTH IMPACTS – NEW PROJECT FOCI
H21-155: <u>Kyriaki-Maria Famelj</u> , Vasiliki D. Assimakopoulos, Theodore M. Giannaros: SOURCES AND DISPERSION OF BTX EMISSIONS IN A PORT AREA IN GREECE
H21-109: <u>Silvia Trini Castelli</u> , Massimo Martina: SIMULATING THE DISPERSION OF MICROPLASTICS IN THE ATMOSPHERE TOWARDS A REMOTE SITE
H21-158: <u>Maciej Kryza</u> , Małgorzata Werner, Krzysztof Skotak, Mike Holland, Helen ApSimon: Year to year changes in PM2.5 population exposure – a case study for Poland
H21-160: <u>Amela Jeričević</u> , Goran Gašparac: Aviation environmental impacts
H21-137: <u>Alexandre Armengaud</u> , Morgan Jacquinet, Romain Derain, Benjamin Rocher, Damien Piga: AZUR MODEL: A NEW SPATIAL ESTIMATION METHOD FOR DAILY MAPPING PARTICLES AND NITROGEN DIOXYDE
H21-169: <u>Chiara Collaveri</u> , Bianca Patrizia Andreini, Elisa Bini, Fiammetta Dini, Stefano Fortunato, Marina Rosato, Gaetano Licitra: AERNOSTRUM: Monitoring Of Air Pollution in the Port of Livorno and of Portoferraio on the Island of Elba and Detailed Estimate of Emissions in the Ports
H21-172: <u>Niko Karvosenoja</u> , Ismo Hämäläinen, Santtu Karhinen, Mikko Savolahti, Ville-Veikko Paunu, Janne Pesu, Jaakko Kukkonen, Timo Lanki: An integrated tool to assess the climate and health benefits of urban strategies and measures
H21-173: <u>Pontus von Schoenberg</u> , Peter Tunved, Niklas Brännström: Enhanced aerosol dynamics in a lagrangian particle dispersion model
H21-058: Oliver Savio Carlo, Riccardo Buccolieri, Esther Rivas, Jose L. Santiago, Pietro Salizzoni, Antonio Esposito, M. Salman Siddiqui. Presented by <u>Fernando Martin</u> : MODELLING AND ASSESSMENT OF THE EFFECTS OF OBSTACLES IN URBAN CANYONS
H21-007: Günther Schauburger, Martin Piringer: CRITICAL DISCUSSION OF THE DETERMINATION OF ANNOYANCE DUE TO ENVIRONMENTAL ODOUR EMISSION
H21-149: Agnese Pini, Tommaso Vigilante, <u>Livia Grandoni</u> , Giovanni Leuzzi, Armando Pelliccioni, Paolo Monti. ANALYSIS OF THE INFLUENCE OF GEOMETRIC AND VENTILATION FACTORS ON INDOOR POLLUTANT DISPERSION: A NUMERICAL STUDY
H21-118: <u>Ignacio Pisso</u> , Susana López-Aparicio, Dam Vo Tanh, Franck Delauge, Terje Krognnes, Magdalena Pühl, Alina Fiehn, Amy Foulds, Grant Allen: Inverse transport and dispersion modelling of anthropogenic greenhouse gas emissions: urban CO2 and offshore oil CH4
H21-100: <u>Alessandro Bigi</u> , Sara Fabbi, Giorgio Veratti, Alessandro Bigi, Grazia Ghermandi: Air quality (PM ₁₀) scenarios resulting from the expansion of the hydrogen fuel cell electric vehicles in Emilia Romagna (Northern Italy)
H21-036: <u>Pascal Joassin</u> , F. Lenartz, M. Dury: STUDY OF SPATIAL AND TEMPORAL VARIABILITY OF PRODUCTION RATES AND COMPOSITION OF NO _x SOURCES USING IN-SITU MEASUREMENTS COMBINED TO A DYNAMIC MODEL OF NO _x -O ₃ SYSTEM
H21-111: <u>Amita Tripathi</u> , Chen Liying, Souprayen Claude: Understanding the impact of cruise ships emission in urban harbour using CFD modelling in CAPNAVIR project

POSTER SESSIONS

Session 1 – 27 and 28th Sept – Dept Environment and Planning

Session 2 – 29 and 30th Sept – Rectory Building

Posters should be put on the first day of the session and removed on the second day until 17:00

Session 1 – 27th and 28th Sept – Dept Environment and Planning

Ref	Title and Authors	Pitch Session
H21-005	Mohamed Yassin: EFFECT OF UPSTREAM BUILDING ON THE POLLUTANT DISPERSION IN URBAN CANOPY WITH CHANGES THERMAL STABILITY	27 set, 15:40
H21-012	<u>Sofia Farina</u> , Dino Zardi: NUMERICAL MODELING OF PASSIVE TRACER DISPERSION FROM A CONTINUOUS POINT SOURCE IN A STEADY THERMALLY DRIVEN SLOPE WIND	27 set, 15:40
H21-015	<u>Lech Gawuc</u> , Karol Szymankiewicz, Dorota Kawicka, Ewelina Mielczarek, Kamila Marek, Marek Soliwoda, Jadwiga Maciejewska: BOTTOM-UP INVENTORY OF RESIDENTIAL COMBUSTION EMISSIONS IN POLAND FOR NATIONAL AIR QUALITY MODELLING: CURRENT STATUS AND PERSPECTIVES	27 set, 15:40
H21-020	<u>Arièle Defossez</u> , Rayna Charlatchka: State of the art on deposition by fog and its difference with respect to dry and wet deposition (wash-out) for a better representation in impact studies	28 set, 15:40
H21-023	<u>Jens Peter Frankemölle</u> , Johan Camps, Pieter De Meutter, Johan Meyers: Near-range Gaussian plume modelling for gamma dose rate reconstruction	27 set, 15:40
H21-024	<u>Victor Watson</u> , François Septier, Patrick Armand, Christophe Duchenne: Detection of low level concentrations of hazardous materials in the air using sequential multivariate detection methods	28 set, 15:40
H21-028	<u>Margret Velizarova</u> , Reneta Dimitrova, Angel Burov, Danail Brezov: Dispersion modelling of major traffic sources in Sofia city	28 set, 15:40
H21-030	<u>Paweł Porwisiak</u> , Maciej Kryza, Massimo Vieno, Janice Scheffler, Mike Holland, Lech Gawuc, Bruce Denby, Qing Mu, Małgorzata Werner: Benzo(a)pyrene concentrations in Central Europe – the role of meteorological conditions and health impact analysis	27 set, 15:40
H21-031	<u>Pirmin Kaufmann</u> , Stefan Rüdüsühli: Operational Dispersion Ensemble at MeteoSwiss	28 set, 15:40
H21-037	<u>Dušan Štefánik</u> , Jana Krajčovičová, Tereza Šedivá: ASSESSMENT OF THE IMPACT OF THE RESIDENTIAL HEATING EMISSIONS ON CONCENTRATIONS BY LOCAL AND REGIONAL AIR-QUALITY MODELS	28 set, 15:40
H21-042	<u>Loris Colombo</u> , Alessandro Marongiu, Giuseppe Fossati, Giulia Malvestiti, Elisabetta Angelino: PM2.5 WINTERTIME SENSITIVITY TO CHANGES IN NOX, SO2 AND NH3 EMISSIONS IN LOMBARDY REGION	28 set, 15:40
H21-044	<u>Hanane Bounouas</u> , Johann Chardeur, Olivier Connan, Didier Hebert, Philippe Laguionie, Denis Maro, Hugo Renard, Pierre Rouspard, Marianne Rozet, Eric Dupont, Thaddé Régi, Bertrand Carissimo, Aurélien Faucheu, Yannick Lefranc, Yelva Roustan: STUDY OF ATMOSPHERIC DISPERSION UNDER LOW WIND CONDITIONS IN AN URBAN ENVIRONMENT, FIRST RESULTS	27 set, 15:40
H21-045	<u>Joffrey Dumont Le Brazidec</u> , Marc Bocquet, Olivier Saunier, Yelva Roustan: Bayesian transdimensional inverse reconstruction of the 137Cs Fukushima-Daiichi release	27 set, 15:40
H21-053	<u>Bruno Ribstein</u> , Maxime Nibart, Daniel Loeb, Patrick Armand, Christophe Duchenne: PROPOSAL FOR MODELLING THE INFLUENCE OF ROOF SLOPE ON URBAN FLOW WITH A DIAGNOSTIC MODEL	27 set, 15:40
H21-055	<u>Bruno Ribstein</u> , Maxime Nibart, Patrick Armand, Christophe Duchenne: A NEW APPROACH TO COUPLING FLOW AND DISPERSION CFD SIMULATIONS IN A LARGE URBAN AREA AND BUILDINGS OF INTEREST	27 set, 15:40
H21-063	<u>Boulos Alam</u> , Rayan Nkenfack Soppi, Amir Ali Feiz, Pierre Ngae, Pramod Kumar, Amer Chpoun: Numerical modelling of pollutant dispersion over an idealized urban area using different algebraic closure models	27 set, 15:40
H21-077	Iwona Rackiewicz, <u>Agnieszka Bartocha</u> , Tomasz Przybyła, Marek Rosicki, Piotr Michałek: A DYNAMIC ODOUR MAPPING SYSTEM AS A TOOL TO SUPPORT LOCAL AUTHORITIES AND WASTEWATER TREATMENT PLANTS IN ODOUR IMPACT MANAGEMENT	27 set, 15:40
H21-081	<u>Bianca Tenti</u> , Enrico Ferrero: SMOKE PLUME FROM FIRE LAGRANGIAN SIMULATION: DEPENDENCE ON DRAG COEFFICIENT AND RESOLUTION	27 set, 15:40



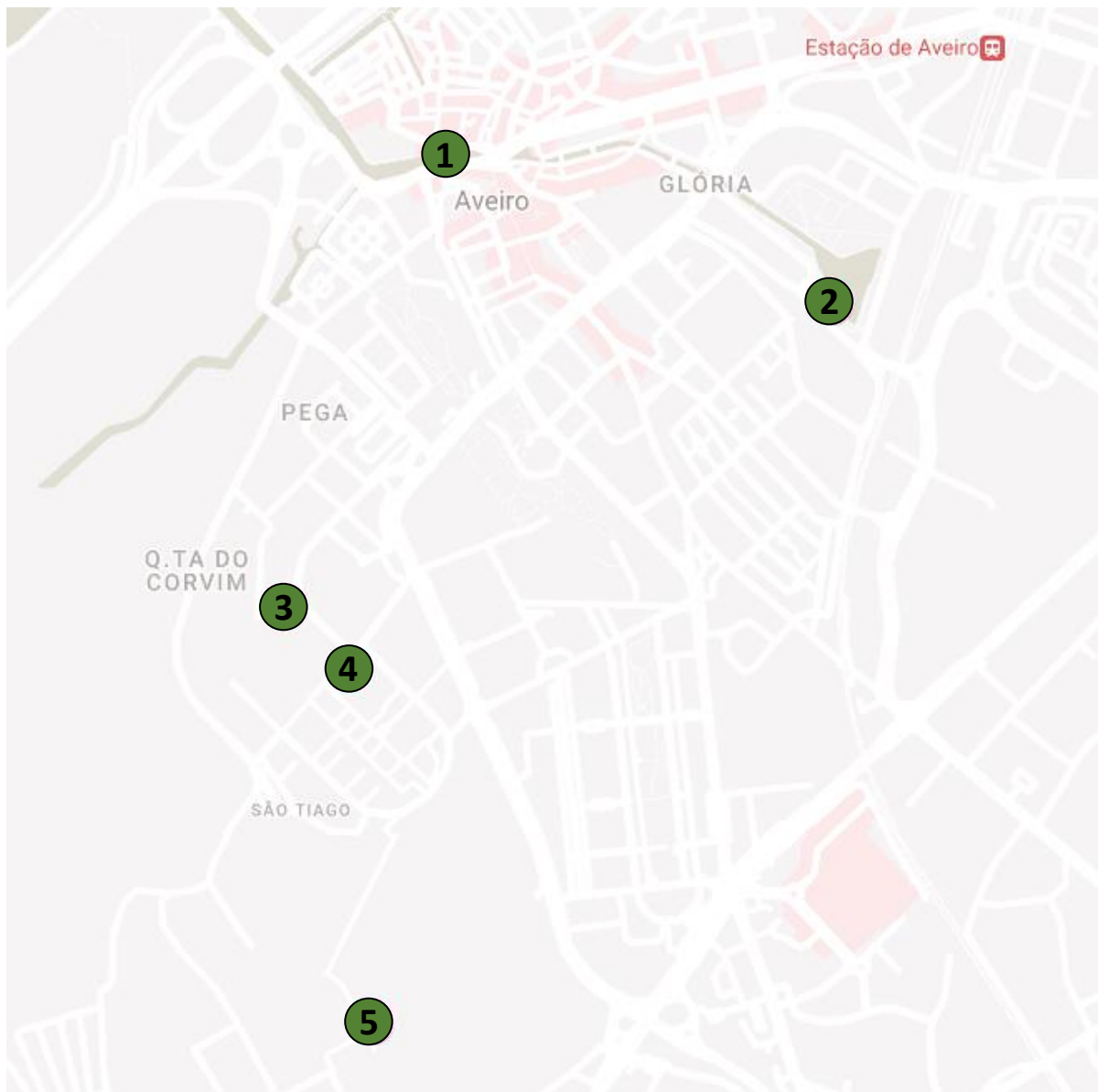
**21st International Conference on
Harmonisation within Atmospheric Dispersion Modelling
for Regulatory Purposes**
27-30 September 2022, Aveiro, Portugal

H21-082	<u>Eve Draper</u> , J. Duncan Whyatt, Sarah E. Metcalfe: Estimating regional background concentrations of PM2.5 and verifying local source contributions in a data poor environment	27 set, 15:40
H21-092	<u>Rory Hetherington</u> , Graham Tickle, Veronica Bowman, Daniel Silk, Simon Gant, Adrian Kelsey, Alison McGillivray, Harvey Tucker: DRIFT MODELLING OF THE DESERT TORTOISE AND FLADIS AMMONIA TRIALS FOR THE JACK RABBIT III MODEL INTER-COMPARISON EXERCISE	27 set, 15:40
H21-106	<u>Marie Mulder</u> : Combining sentinel observations with plume backtrackings from a dispersion model to improve wildfire detection	27 set, 15:40
H21-139	<u>Guilhem Balvet</u> , Martin Ferrand, Yelva Roustan, Jean-Pierre Minier, Christophe Henry, Inria Sophia Antipolis: Treatment of the near ground effect in Lagrangian stochastic methods applied to a 2-D point source dispersion after an isolated obstacle in a neutral flow	27 set, 15:40
H21-149	H21-149: Agnese Pini, Tommaso Vigilante, <u>Livia Grandoni</u> , Giovanni Leuzzi, Armando Pelliccioni, Paolo Monti. ANALYSIS OF THE INFLUENCE OF GEOMETRIC AND VENTILATION FACTORS ON INDOOR POLLUTANT DISPERSION: A NUMERICAL STUDY	
H21-151	Ana R. Gamarra, Marta G. Vivanco, Mark R. Theobald, Yolanda Lechón, Carmen Lago, Victoria Gil, Juan Luis Garrido, José Luis Santiago, Fernando Martín, Alejandro Rodríguez-Sánchez, Eugenio Sánchez. Presented by <u>Alejandro Rodriguez-Sanchez</u> : Assessing the impact of a traffic low emission zone on pollutant concentrations at street level through a combination of microscopic traffic simulations and air quality modelling at multiscale	27 set, 15:40
H21-156	<u>Cyrrill von Arx</u> : Implementation of a decision support system for nuclear emergencies	27 set, 15:40

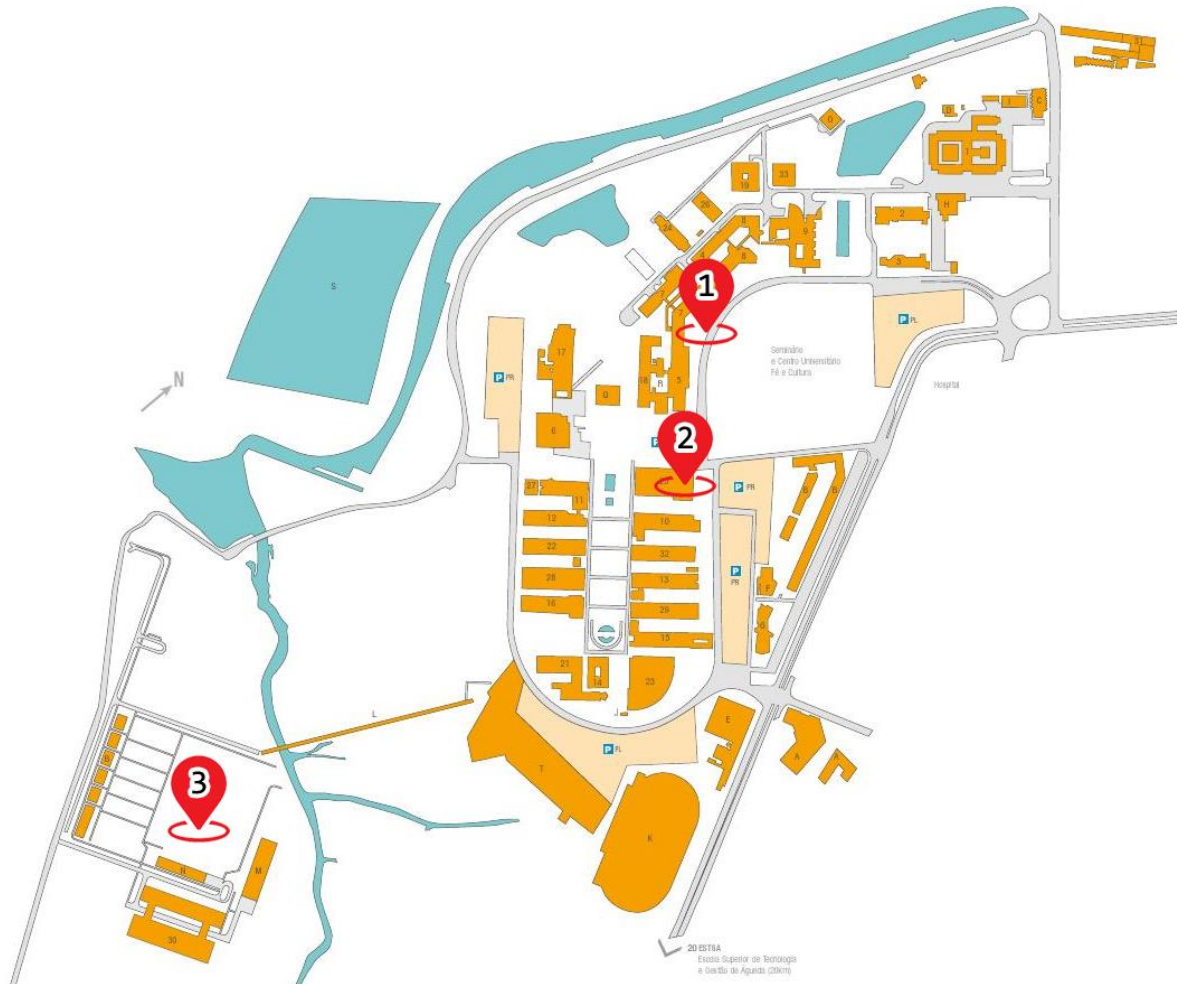
Session 2 – 29th and 30th Sept – Rectory Building

Ref	Title and Authors	Pitch Session
H21-007	<u>Günther Schauburger</u> , Martin Piringer: CRITICAL DISCUSSION OF THE DETERMINATION OF ANNOYANCE DUE TO ENVIRONMENTAL ODOUR EMISSION	29 set, 16:30
H21-016	<u>Georgi Gadzhev</u> , Kostadin Ganev, Ivelina Georgieva, Vladimir Ivanov: Evaluation of the Impact of the Projected Future Emissions from Energy on the Air Quality in Bulgaria	28 set, 15:40
H21-017	<u>Ivelina Georgieva</u> , Georgi Gadzhev, Kostadin Ganev, Vladimir Ivanov: EVALUATION OF THE EFFECTS OF THE NATIONAL EMISSION REDUCTION STRATEGIES FOR YEARS 2020-2029 AND AFTER 2030 ON THE SULPHUR AND NITROGEN SURFACE CONCENTRATIONS ON THE TERRITORY OF BULGARIA	28 set, 15:40
H21-036	H21-036: <u>Pascal Joassin</u> , F. Lenartz, M. Dury: STUDY OF SPATIAL AND TEMPORAL VARIABILITY OF PRODUCTION RATES AND COMPOSITION OF NO X SOURCES USING IN-SITU MEASUREMENTS COMBINED TO A DYNAMIC MODEL OF NO X -O3 SYSTEM	29 set, 16:30
H21-048	<u>Oscar Björnham</u> , Daniel Elfverson, Leif Persson: Population dynamics and its consequences on health risk modeling following inhalation exposure	28 set, 15:40
H21-050	Jose-Luis Santiago, Esther Rivas, Beatriz Sanchez, Riccardo Buccolieri, Oliver S. Carlo, Alberto Martilli, Marta G. Vivanco, <u>Fernando Martín</u> : IMPACT OF GREEN INFRASTRUCTURE ON TRAFFIC RELATED POLLUTANT CONCENTRATION IN HIGH-RISE URBAN AREAS	28 set, 15:40
H21-051	Jose-Luis Santiago, Esther Rivas, Beatriz Sanchez, Riccardo Buccolieri, Alberto Martilli, Marta G. Vivanco, Antonio Esposito, <u>Fernando Martín</u> : Ranking of various single and combinations of local air pollution mitigation measures in an urban environment	28 set, 15:40
H21-052	<u>Francesca Tagliaferri</u> , Marzio Invernizzi, Selena Sironi: VALIDATION STUDY OF WINDTRAX BACKWARD LAGRANGIAN MODEL	28 set, 15:40
H21-058	Oliver Savio Carlo, Riccardo Buccolieri, Esther Rivas, Jose L. Santiago, Pietro Salizzoni, Antonio Esposito, M. Salman Siddiqui. Presented by <u>Fernando Martin</u> : MODELLING AND ASSESSMENT OF THE EFFECTS OF OBSTACLES IN URBAN CANYONS	29 set, 16:30
H21-071	<u>Boris Mifka</u> , Maja Telišman Prtenjak, Ivna Kavre Piltaver, Darko Mekterović, Josipa Kuzmić, Marijan Marcijuš, Irena Ciglencečki: The aspects of numerical simulations on desert dust outbreaks over the Adriatic Sea; influence of Asian and African deserts	28 set, 15:40
H21-072	<u>Alex Resovsky</u> , Eriksson, E. M., Velay-Lasry, F., Resovsky, A., Lachatre, M., Albergel, A., Calori, G., Nanni, A., Radice, P., Abiye, O., Fawole, O., Adebola, O., Mate, K., Kuntasal, O. O., Awe, Y. A., Fagbeja, M. A., Akpokodje, J. E., Johnson, T., Weaver, C., Forastiere, F., Spadaro, J. V.: DEVELOPMENT OF AN AIR POLLUTANT EMISSIONS INVENTORY AND MODELING FRAMEWORK FOR AIR QUALITY CONTROL MEASURES IN LAGOS, NIGERIA	28 set, 15:40
H21-078	<u>Andrea Bisignano</u> , M. Beggiano, M. C. Bove, R. Cresta, F. Cassola, D. Sacchetti, A. Mazzino, P. Prati: ASSESSING THE IMPACT OF PORT EMISSIONS ON AIR POLLUTION IN GENOA	28 set, 15:40
H21-083	<u>Chun-Ji Kim</u> , Su-Bin Oh, Sang-Hyun Lee, Hyun-Ha Lee, Chun-Sil Jin: Atmospheric dispersion characteristics of radioactive materials obtained from WRF/HYSPLIT in nuclear power plants	28 set, 15:40
H21-084	Sang-Hyun Lee, Su-Bin Oh, Sang-Hyun Lee, Hyun-Ha Lee, Chun-Sil Jin: DEVELOPMENT OF A DYNAMIC DOWNSCALING METHOD FOR USE IN SHORT-RANGE ATMOSPHERIC DISPERSION MODELLING NEAR NUCLEAR POWER PLANTS	28 set, 15:40
H21-086	<u>Margit Pattantyús-Ábrahám</u> : NEW REGULATION FOR DOSE ASSESSMENT OF RADIOACTIVE RELEASES IN GERMANY	28 set, 15:40
H21-090	<u>Małgorzata Werner</u> , Anetta Drzeniecka-Osiadacz, Lech Gawuc, Maciej Kryza, Tymoteusz Sawiński, Krzysztof Skotak, Massimo Vieno. Presented by <u>Paweł Porwisiak</u> : Impact of policy abatements on air quality in Central Europe	28 set, 15:40
H21-099	<u>Niki Paisi</u> , Jonilda Kushta, Angelos Violaris, Hugo Denier Van Der Gon, Jos Lelieveld: Role of Emission Inventories and Differential Toxicity Approach in Modelling of PM2.5 and Associated Health Impacts	29 set, 16:30
H21-100	<u>Alessandro Bigi</u> , Sara Fabbi, Giorgio Veratti, Alessandro Bigi, Grazia Ghermandi: Air quality (PM10) scenarios resulting from the expansion of the hydrogen fuel cell electric vehicles in Emilia Romagna (Northern Italy)	29 set, 16:30
H21-101	<u>Grzegorz Jeleniewicz</u> , Joanna Strużewska, Jacek Kamiński, Paulina Jagiełło, Aneta Gienibor, Marcin Kawka, Aleksander Norowski: MODELLING BASED METHOD FOR ASSESSING THE REPRESENTATIVENESS OF AIR QUALITY MONITORING STATIONS	29 set, 16:30
H21-104	Ana R. Gamarra, Marta G. Vivanco, Mark R. Theobald, Yolanda Lechón, Carmen Lago, Victoria Gil, Juan Luis Garrido, José Luis Santiago, Fernando Martín, Alejandro Rodríguez-Sánchez, Eugenio Sánchez. Presented by	29 set, 16:30

	<u>Alejandro Rodriguez-Sanchez</u> : HEALTH IMPACT BENEFITS OF INCREASED RENEWABLE ENERGY USE IN THE SPANISH ROAD TRANSPORT SECTOR	
H21-105	<u>Vladimír Fuka</u> , Štěpán Nosek, Jelena Radović: Sensitivity of LES simulations to resolution, subgrid models and boundary conditions	29 set, 16:30
H21-108	<u>Bernd Leitl</u> , S. Michel, S Schalaus, H. Plischka, J. Turnow, B. Schalaus, F. Harms: Softwaretools for simulating dispersion of hazardous materials in industrial environments	29 set, 16:30
H21-109	<u>Silvia Trini Castelli</u> , Massimo Martina: SIMULATING THE DISPERSION OF MICROPLASTICS IN THE ATMOSPHERE TOWARDS A REMOTE SITE	29 set, 16:30
H21-111	H21-111: Amita Tripathi, Chen Liying, Souprayen Claude: Understanding the impact of cruise ships emission in urban harbour using CFD modelling in CAPNAVIR project	
H21-114	<u>Roberta De Maria</u> , Stefano Bande, Francesca Bissardella, Cinzia Cascone, Stefania Ghigo, Marilena Maringo: Impact assessment on air quality of a waste-to-energy plant in Turin	29 set, 16:30
H21-118	<u>Ignacio Pisso</u> , Susana López-Aparicio, Dam Vo Tanh, Franck Delauge, Terje Krognnes, Magdalena Pühl, Alina Fiehn, Amy Foulds, Grant Allen: Inverse transport and dispersion modelling of anthropogenic greenhouse gas emissions: urban CO ₂ and offshore oil CH ₄	
H21-119	<u>Benoît Cuihe</u> , Martin Ferrand, Yelva Roustan, Bertrand Carissimo: Recent developments in high-resolution wind field modelling in complex terrain for dispersion simulations using GRAMM-SCI	29 set, 16:30
H21-121	<u>Andres Simon-Moral</u> , Alberto Martilli, Ales Padró, Lexuri Yurrebaso: Assessment of the dispersive capacity of neighbourhoods based on Local Climate Zones classification	29 set, 16:30
H21-133	<u>Roseane Albanj</u> : A BAYESIAN INFERENCE TECHNIQUE COMBINED WITH A STOCHASTIC WIND MODELING TO IMPROVE MULTIPLE SOURCE PARAMETERS ESTIMATION IN THE ATMOSPHERE	29 set, 16:30
H21-136	<u>Alexandre Armengaud</u> , Sonia Oppo, Eve-Agnès Fiorentino, Frédéric Mahé, Barbara D'Anna: INTERCOMPARISON BETWEEN OBSERVATIONS AND 3D LAGRANGIAN MODEL SIMULATIONS FOR POLLUTANTS DISPERSION IN THE HARBORS OF MARSEILLE AND TOULON IN 2021	29 set, 16:30
H21-137	<u>Alexandre Armengaud</u> , Morgan Jacquinet, Romain Derain, Benjamin Rocher, Damien Piga: AZUR MODEL: A NEW SPATIAL ESTIMATION METHOD FOR DAILY MAPPING PARTICLES AND NITROGEN DIOXYDE	29 set, 16:30
H21-138	<u>Armando Pelliccioni</u> , Livia Grandoni, Annalisa Di Bernardino, Paolo Monti: Tilt correction method for the estimation of scaling variables of Monin-Obukhov Similarity Theory in urban areas	29 set, 16:30
H21-142	<u>Elisabetta Ronchieri</u> , Leonardo Aragão, Rossana Di Staso: TIME SERIES ANALYSIS OF METEOROLOGICAL PARAMETERS AND AIR POLLUTION CONCENTRATIONS IN EMILIA-ROMAGNA, ITALY, DURING COVID-19 INFECTION	29 set, 16:30
H21-146	<u>Tomas Halenka</u> , Ranjeet S. Sokhi: NON-CO ₂ FORCERS AND THEIR CLIMATE, WEATHER, AIR QUALITY AND HEALTH IMPACTS – NEW PROJECT FOCI	29 set, 16:30
H21-155	<u>Kyriaki-Maria Fameli</u> , Vasiliki D. Assimakopoulos, Theodore M. Giannaros: SOURCES AND DISPERSION OF BTX EMISSIONS IN A PORT AREA IN GREECE	29 set, 16:30
H21-158	<u>Maciej Kryza</u> , Małgorzata Werner, Krzysztof Skotak, Mike Holland, Helen ApSimon: Year to year changes in PM _{2.5} population exposure – a case study for Poland	29 set, 16:30
H21-160	<u>Amela Jeričević</u> , Goran Gašparac: Aviation environmental impacts	29 set, 16:30
H21-169	<u>Chiara Collaveri</u> , Bianca Patrizia Andreini, Elisa Bini, Fiammetta Dini, Stefano Fortunato, Marina Rosato, Gaetano Licitra: AERNOSTRUM: Monitoring Of Air Pollution in the Port of Livorno and of Portoferraio on the Island of Elba and Detailed Estimate of Emissions in the Ports	29 set, 16:30
H21-172	<u>Niko Karvosenoja</u> , Ismo Hämäläinen, Santtu Karhinen, Mikko Savolahti, Ville-Veikko Paunu, Janne Pesu, Jaakko Kukkonen, Timo Lanki: An integrated tool to assess the climate and health benefits of urban strategies and measures	29 set, 16:30
H21-173	<u>Pontus von Schoenberg</u> , Peter Tunved, Niklas Brännström: Enhanced aerosol dynamics in a lagrangian particle dispersion model	29 set, 16:30



- 1- Traditional moliceiro boat tour (to the Conference Dinner)
R. João Mendonça, 3800-200 Aveiro
- 2- Meliá Hotel Ria & Spa (Conference Dinner)
Cais da Fonte Nova 5, 3810-200 Aveiro
- 3- Department of Environment and Planning
Departamento de Ambiente e Ordenamento, 3810-193 Aveiro
- 4- Rectory Building
Edifício Central e da Reitoria, 3810-193 Aveiro
- 5- Crasto Restaurant
Complexo de Refeitórios do Castro, 3810-193 Aradas
- 6- Sétimo Ano de Praia Beach CLUB
R. Manuel Facica 9, 3830-751 Gafanha da Nazaré



1- Department of Environment and Planning

40.63258, -8.65906

2- Rectory Building

40.63128, -8.65753

3- Crasto Restaurant

40.62442, -8.65685